Amendment No. 37

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Hillcrest Medical Center	In accordance with letter dated July 11, 1996 3. License number 35-09206-03 is amended in its entirety to read as follows:
2. 1120 South Utica Tulsa, Oklahoma 74104	4. Expiration date April 30, 2003
	5. Docket or Reference No 030-08883

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Any byproduct material identified in 10 CFR 35.100	A. Any radiopharmaceutical identified in 10 CFR 35.100	A. As needed
B. Any byproduct material identified in 10 CFR 35.200	B. Any radiopharmaceutical identified in 10 CFR 35.200	B. As needed
C. Any byproduct material identified in 10 CFR 35.300	C. Any radiopharmaceutical identified in 10 CFR 35.300	C. 500 millicuries
D. Any byproduct material identified in 10 CFR 35.400	D. Any brachytherapy source identified in 10 CFR 35.400	D. As needed
E. Any byproduct material identified in 10 CFR 35.500	E. Sealed sources for diagnostic devices identified in 10 CFR 35.500	E. As needed
F. Any byproduct material identified in 10 CFR 31.11	F. Prepackaged Kits	F. As needed
G. Gadolinium-153	G. Sealed source (IPL capsule #A3409)	G. Not to exceed 75 millicuries per source and 150 millicuries total

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
35-09206-03

Docket or Reference Number
030-08883

Amendment No. 37

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
H. Gadolinium-153	H. Sealed source (Isotope Products Laboratories Model 3409 [Isotope Products Code HEGL-0022])	H. 86 millicuries
I. Technetium-99m	I. Liquid fabricated as sealed source	I. 46 millicuries total. Not to exceed 23 millicuries per tube

9. Authorized use

A. Medical use described in 10 CFR 35.100.
B. Medical use described in 10 CFR 35.200.
C. Medical use described in 10 CFR 35.300.
D. Medical use described in 10 CFR 35.400 and, for cesium-137, calibration of licensee's survey meters and personnel dosimeters.
E. Medical use described in 10 CFR 35.500.
F. In vitro studies.
G. For use in Isotope Products Laboratories Model 3409 for calibration of instruments.
H. and I. For use in a Picker International (Picker-Ohio Imaging) Model STEP transmission line source housing device.

CONDITIONS

10. Locations of use:

A. Material identified in Items 6.A. through 6.F. shall be used at Hillcrest Medical Center, 1120 South Utica, Tulsa, Oklahoma.

B. Material identified in Item 6.E. shall be used at Hillcrest Center for Women's Health, 1822 E. 15th Street, Tulsa, Oklahoma.

C. Material identified in Item 6.B. shall be used at Cardiovascular Assessment Center at Hillcrest, 1265 S. Utica Avenue, Tulsa, Oklahoma.

11. Radiation Safety Officer: David W. Anderson, Ph.D.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
35-09206-03

Docket or Reference Number
030-08883

Amendment No. 37

12. Authorized Users:

A. Andrzej W. Laczkowski, M.D., for material identified in 10 CFR 35.100, 35.200, 35.500, 31.11; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

B. Steven Landgarten, M.D., for material identified in 10 CFR 35.100, 35.200, 35.300, 35.400, 35.500, 31.11; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

C. David B Lhevine, M.D., for material identified in 10 CFR 35.400, 35.500; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

D. John J. Pippin, M.D., for material identified in 10 CFR 35.200 for cardiovascular clinical procedures; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

E. Terry D. Powell, M.D., for material identified in 10 CFR 35.400, 35.500; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

F. Thomas D. Roberts, M.D., for material identified in 10 CFR 35.100, 35.200, 35.300, 35.500, 31.11; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

G. Oneita F. Taylor, M.D., for material identified in 10 CFR 35.400, phosphorus-32 as colloidal chromic phosphate for intracavitary treatment of malignant effusions; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

H. Jose E. Trujillo, M.D., for material identified in 10 CFR 35.100, 35.200, 35.500, 31.11; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

I. James J. Nemec, M.D., for material identified in 10 CFR 35.100, 35.200; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
35-09206-03

Docket or Reference Number
030-08883

Amendment No. 37

J. Van Hoy Woo, M.D., for material identified in 10 CFR 35.400; gadolinium-153 and technetium-99m for use in the Picker International (Picker-Ohio Imaging) Model STEP device for transmission diagnostic imaging.

13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.

14. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below, except for minor changes in the medical use radiation safety procedures as provided in 10 CFR 35.31. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated January 25, 1993
B. Letter dated February 22, 1993
C. Letter dated March 29, 1993
D. Letter dated August 4, 1994
E. Letter dated October 4, 1995
F. Letter dated December 1, 1995
G. Letter dated July 11, 1996
H. Letter dated October 7, 1996

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date OCT 23 1996

By Original Signed By
Jacqueline D. Burks

Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

October 23, 1996

Hillcrest Medical Center
ATTN: David Anderson, Ph.D.
Radiation Safety Officer
1120 South Utica
Tulsa, OK 74104

SUBJECT: LICENSE AMENDMENT

Please find enclosed License No. 35-09206-03. You should review this license carefully and be sure that you understand all conditions. If you have any questions, you may contact the reviewer who signed your license at 817-860-8132.

Please note that an amendment to the license is necessary to add additional radionuclides that may have been included to future amendments to Sealed Source and Device Registry sheet NR-104-D-101-S.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public which can result from failure to comply with NRC requirements, you must conduct your program involving radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.

2. Possess radioactive material only in the quantity and form indicated in your license.

3. Use radioactive material only for the purpose(s) indicated in your license.

4. Notify NRC in writing of any change in mailing address (no fee required if the location of radioactive material remains the same).

5. Request and obtain written NRC consent before transferring your license or any right thereunder, either voluntarily or involuntarily, directly or indirectly, through transfer of control of your license to any person or entity. A transfer of control of your license includes not only a total change of ownership, but also a change in the controlling interest in your company whether it is a corporation, partnership, or other entity. In addition, appropriate license amendments must be requested and obtained for any other planned changes in your facility or program that are contrary to your license or contrary to representations made in your license application, as well as supplemental correspondence thereto, which are incorporated into your license. A license fee may be charged for the amendments if you are not in a fee-exempt category.

6. Maintain in a single document decommissioning records that have been certified for completeness and accuracy listing all the following items applicable to the license:

   - Onsite areas designated or formerly designated as restricted areas as defined in 10 CFR 20.3(a)(14) or 20.1003.

   - Onsite areas, other than restricted areas, where radioactive materials in quantities greater than amounts listed in Appendix C to 10 CFR 20.1001-20.2401 have been used, possessed, or stored.

   - Onsite areas, other than restricted areas, where spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site have occurred that required reporting pursuant to 10 CFR 30.50(b)(1) or (b)(4), including areas where subsequent cleanup procedures have removed the contamination.

   - Specific locations and radionuclide contents of previous and current burial areas within the site, excluding radioactive material with half-lives of 10 days or less, depleted uranium used only for shielding or as penetrators in unused munitions, or sealed sources authorized for use at temporary job sites.

   - Location and description of all contaminated equipment involved in licensed operations that is to remain onsite after license termination.

7. Submit a complete renewal application with proper fee, or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.

8. Request termination of your license if you plan to permanently discontinue activities involving radioactive material.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), 60 FR 34381, June 30, 1995.

Thank you for your cooperation.

Sincerely,

Original Signed By
Jacqueline D. Burks

Jacqueline D. Burks
Health Physicist
Nuclear Materials Licensing Branch

Docket: 030-08883
License: 35-09206-03
Control: 466140

Enclosures: As stated

DOCUMENT NAME: P:\MLCOVER\LETTER\HILCREST.MLC

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10/23/96							

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MS #16 T9

October 7, 1996

Jacqueline Burks, Health Physicist
Nuclear Materials Licensing Section
U.S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Reference: Hillcrest Medical Center of Tulsa, Oklahoma
NRC License # 35-09206-03
Docket 030-08883
Control 466140

Dear Ms. Burks:

Thank you for your review of our amendment request and your letter of September 30, 1996. Responding to the items in your letter in order.

1. We have submitted registration information to the Department of Environmental Quality relating to accelerator produced radioactive material. We understand that those radionuclides listed on current or future amendments to NR-104-D-101-S will automatically be included in our amended license.

We can not verify that Am-241 or Te-123m have been registered with the NRC or an agreement state and hereby remove this from our amendment request.

2 & 3. We request that this amendment permit us to use the maximum quantities of radioactive materials in the Picker Step as listed in NR-104-D-1010-S. We have read and are familiar with the limits specified in this document.

4. We have modified our initial amendment request regarding information pertaining to safety procedures for the safe operation and maintenance of the device to include safe handling of the line sources.

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For these sources we commit to the following:

1. Sources will only be used in the Prism 3000 STEP system.

2. Receipt and storage both prior to and following use of the sealed sources will be in accordance with safety procedures already in place for other sources, both sealed and unsealed for which we are presently authorized. The sources will be maintained in the hot lab in a lead lined cabinet. The hot lab is locked when the facility is not manned by qualified staff. A Radioactive materials sign will be posted on the door to the cabinet. A spill kit similar to that described in Regulatory Guide 10.8 will be maintained in the hot lab.

3. Ring TLD badge will be used to measure dose to the hand.

4. When the sealed sources are not maintained in the Step unit, they will be maintained in the original shipping containers, appropriately labeled and stored in the lead lined cabinet in the hot lab.

5. Use of the sources will be per the combined protocols as described in the package insert received from the source manufacturer and the operators guide for the STEP unit authored by Picker Ohio Imaging.

a. Use of standard safety precautions for handling the line sources including plastic backed absorbent paper, gloves, L-Block shield, use of shipping container for storage and lead wrapped plastic pipe for storage of 99mTc sources.
b. Exchange of sources, either between the long lived source replacement, exchange between the long lived and 99mTc source or between 99mTc sources (daily) will be done in the hot lab behind an L-Block with all shielded storage containers ready for use behind the L-Block.
c. The Step mechanism will be attached to the camera prior to the patient being placed on the camera couch for imaging.
d. Appropriate QC of the Step will be performed before the patient is placed on the camera couch and the Step unit will be checked for proper operation during the QC procedure.
e. During the imaging procedure, there will be visual checks of the Step unit and associated images to verify that the unit is operating properly. Failure of the shutter to close terminates the acquisition.
f. At termination of the imaging procedure there will be a visual check to assure that the shutter is in the closed position.
g. At the end of each day's use, the Step unit will be detached from the camera mount and placed in the shielded cabinet.

h. Sources will be inventoried quarterly and leak testing will be conducted at six month intervals.
i. Spent sources with half live greater than 60 days will be returned to the supplier either as part of an exchange program or upon conclusion of their usefulness. Other materials will either be returned to the manufacturer or decayed in storage for a period of 10 half lives and until levels on contact without the benefit of shielding as measured by a low level survey meter are indistinguishable from those of natural background. If disposal prior to full decay becomes necessary, the sources will be transferred to an authorized recipient for disposal purposes.

For 99mTc sources, we also commit to:

a. Fabrication and use of the source will be per radiation safety procedures already in place for handling unsealed source of Tc-99m (ie gloves, syringe shields, lead lined L block, working over absorbent surfaces, etc) and per the instruction detailed in the Step system operation's guide supplied by Picker International. 99mTc DTPA will be used when ever possible to minimize radiation dose in case of personnel contamination.
b. Once filled, the line source will be observed for possible leakage before being loaded and locked into the detachable shield of the STEP system. This will be accomplished behind the L-block in the hot lab using the same radiation safety precautions (gloves, L block, etc). The outer surface of the STEP will be surveyed with a pancake probe survey meter to assure that there is no surface contamination on the exterior of the unit. Surface reading should be no greater than 0.04 mR/hr when the STEP is loaded.
c. The unit will then be mounted on the camera as per Picker instructions. The shutter will be checked for proper operation before the unit is used of patient procedures.
d. Spent line sources will be stored in our decay in storage cabinet and may be reloaded and reused or disposed to waste after 10 half lives decay and contact survey to verify that radiation level is indistinguishable from natural background.
e. Because of the short halflife of 99mTc, we do not plan to do quarterly inventory or semiannual leakage testing of the 99mTc line sources. However, we commit to maintaining a log of receipt of 99mTc for Step. This will be part of our existing receipt/use unit dose log and will include a record of the surface reading of the Step after it has been loaded with the 99mTc source as noted in item 3 above. We will not use the Step unit if it is contaminated.

5. Emergency procedures in the event the shutter fails to close and/or sealed source is bent or broken installation.

a. As noted above, we have plans to monitor correct operation of the Step shutter. In case the shutter does not close when commanded by the computerized system, the qualified operator of the system will manually close the shutter. As noted above, the acquisition procedure terminates if the shutter fails to close.

b. Since the exposure rate is very small, NRC notification is not indicated; however, there will be an investigation to determine the cause of the system failure and corrective actions will be made before reuse for patients.

c. If the source is bent or broken during loading (installation of the source in Step unit):

1. the bent source will be examined for the safety of the L-Block with leaded glass to determine the extent of damage and the manufacturer will be contacted prior to determine what action should be taken under the circumstances. The RSO will be notified.
2. the broken source could possibly release significant radioactivity onto the absorbent paper on which the work is being done.
   a. if the source is liquid, first assure that the source is fully contained on the absorbent material, change gloves.
   b. place absorbent pads on floor and notify the RSO.
   c. do not allow others into the room until approval by the RSO or designee.
   d. begin the clean up process by carefully folding the absorbent paper so as not to loose any of the spilled material or particles of the source or glass tubing.
   e. use caution to avoid puncture wound of the hands.
   f. wrap the initial package in an additional absorbent pad and place package behind the decay in storage shield.
   g. change gloves, place a glove over the 44-9 probe survey meter and survey the area for other contamination.
   h. decontaminate as appropriate, saving all materials in plastic backed absorbent paper behind the decay in storage shield.
   i. survey hands, clothing and shoes remove all contaminated items before leaving area. Decontaminate skin with warm water and mild soap.
   j. prepare a spill report for RSO review.

k. the RSO or designee will immediately evaluate incident to account for all radioactivity, determine appropriateness of bioassays and NRC notification.

If you have additional questions regarding this request, please contact Dr. John Pippin or Mr. Tim Payne at (918) 579-4949 or Dr. David Anderson, at (918) 579-8200.

Sincerely,

David W. Anderson

David Anderson, Ph.D.
Radiation Safety Officer

cc: Terry Eichor, Director
Vernon Joe Ficken, Ph.D.

October 7, 1996

Radiation Management Section
Okla. Dept of Environmental Quality
1000 NE 10th Street
Oklahoma City, OK 73117-1212

Reference: Hillcrest Medical Center of Tulsa, Oklahoma
NRC License # 35-09206-03

Greetings:

Enclosed please find a proposed revision of our registration to include a sealed source of 57Co for the Picker Step system for measuring transmission and development of attenuation correction for SPECT imaging.

We request an amendment to our registration to add the following source configuration for use in the STEP system -- US NRC registration NR-104-D-101-S dated April 28, 1995.

1. Co-57 sealed source - model HEGL-0021 from Isotope Products Laboratories, Burbank, CA (or equivalent product from a licensed Agreement State or NRC vendor) with a possession limit of 60 mCi.

For this source we commit to the following:

1. Sources will only be used in the Prism 3000 STEP system.

2. Receipt and storage both prior to and following use of the sealed sources will be in accordance with safety procedures already in place for other sources, both sealed and unsealed for which we are presently authorized. The sources will be maintained in the hot lab in a lead lined cabinet. The hot lab is locked when the facility is not manned by qualified staff. A Radioactive materials sign will be posted on the door to the cabinet. A spill kit similar to that described in Regulatory Guide 10.8 will be maintained in the hot lab.

3. Ring TLD badge will be used to measure dose to the hand.

4. When the sealed sources are not maintained in the Step unit, they will be maintained in the original shipping containers, appropriately labeled and stored in the lead lined cabinet in the hot lab.

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5. Use of the sources will be per the combined protocols as described in the package insert received from the source manufacturer and the operators guide for the STEP unit authored by Picker Ohio Imaging.

a. Use of standard safety precautions for handling the line sources including plastic backed absorbent paper, gloves, L-Block shield, use of shipping container for storage and lead wrapped plastic pipe for storage of 99mTc sources.

b. Exchange of sources, either between the long lived source replacement, exchange between the long lived and 99mTc source or between 99mTc sources (daily) will be done in the hot lab behind an L-Block with all shielded storage containers ready for use behind the L-Block.

c. The Step mechanism will be attached to the camera prior to the patient being placed on the camera couch for imaging.

d. Appropriate QC of the Step will be performed before the patient is placed on the camera couch and the Step unit will be checked for proper operation during the QC procedure.

e. During the imaging procedure, there will be visual checks of the Step unit and associated images to verify that the unit is operating properly. Failure of the shutter to close terminates the acquisition.

f. At termination of the imaging procedure there will be a visual check to assure that the shutter is in the closed position.

g. At the end of each day's use, the Step unit will be detached from the camera mount and placed in the shielded cabinet.

h. Sources will be inventoried quarterly and leak testing will be conducted at six month intervals.

i. Spent sources with half life greater than 60 days will be returned to the supplier either as part of an exchange program or upon conclusion of their usefulness. Other materials will either be returned to the manufacturer or decayed in storage for a period of 10 half lives and until levels on contact without the benefit of shielding as measured by a low level survey meter are indistinguishable from those of natural background. If disposal prior to full decay becomes necessary, the sources will be transferred to an authorized recipient for disposal purposes.

If you have questions regarding this request, please contact Dr. John Pippin, Mr. Tim Payne at (918) 579-4949 or Dr. David Anderson, at (918) 579-8200.

Sincerely,

David Anderson, Ph.D.
Radiation Safety Officer

cc: Terry Eichor, Director
Vernon Joe Ficken, Ph.D.

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
RADIATION MANAGEMENT SECTION
1000 N.E. 10TH STREET
OKLAHOMA CITY, OKLAHOMA 73117-1212

REGISTRATION OF USERS OF RADIATION SOURCES

Registration Does Not Imply Approval or Disapproval

FORM B: USERS OF RADIOACTIVE MATERIALS

1. Owner or Name of Clinic Hillcrest Medical Center, Dept of Radiology
   Mailing Address 1120 South Utica Avenue, Tulsa, OK 74104-988
2. Person in Charge of Radiation Safety-Name David W. Anderson, Ph.D.
   Address Same
3. Confines of Installation (Street Address if different from above)
   Same
4. Radioactive Materials (Use Additional Sheets if Necessary.)

Item No.	Isotope (1)	Sealed	Unsealed	Physical Form (2)	Source Strength (3)	Use (4)	Max. Quantity on hand at any given time (3)
1.	201Tl		X	Liquid	mCi	Dx	20 mCi
2.	57Co	X		Solid	mCi	QC	60 mCi
3.	67Ga		X	Liquid	mCi	Dx	10 mCi
4.	123I		X	Solid	mCi	Dx	1 mCi
5.	111In		X	Liquid	mCi	Dx	10 mCi
6.	123I		X	Liquid	mCi	Dx	10 mCi
7.	57Co		X	Liquid	uCi	Dx	3 uCi

Footnotes: (1) For example: Ra 226, Co 60, I 131; (2) Solid, Liquid, or Gas; (3) Specify units of activity used; (4) For example: Well Logging, Therapy, Portable Gauge, Research, Industrial Radiography, etc.

5. Radiation Safety Officer(s)-Name(s); and Statement of Qualifications:
   David W. Anderson, Ph.D., Board Certified Radiological Physicist
   Approved as RSO by the US NRC
6. Date and Signature of Owner or Authorizing Agent:
   Date:_____
   Signature_____
   Title or Position Held_____

Use of Registering Agency Only

7. Acknowledgement of Registration:
   Date Received_____
   Registration Number_____
   Signature of Registering Officer:

Revised 9-93

44140

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

September 30, 1996

Hillcrest Medical Center
ATTN: David W. Anderson, Ph.D.
Radiation Safety Officer
1120 South Utica
Tulsa, OK 74104

SUBJECT: LICENSE AMENDMENT

We have reviewed your letter dated July 11, 1996, requesting an amendment to your byproduct material license for use in nuclear medicine. Before further action can be taken, we will need the following additional information.

In the letter dated July 11, 1996, you requested that you be licensed to possess cobalt-57 in the form of sealed sources. Note that the Atomic Energy Act of 1954 as amended by the Energy Reorganization Act of 1974 precludes the Nuclear Regulatory Commission (NRC) from licensing accelerator produced radioactive material. The State of Oklahoma should be contacted concerning the licensing or registration of accelerator produced radioactive material.

The Isotope Product Code HEGL-241 and HEGL-123m were not listed as approved americium-241 (Am-241) and tellurium-123m (Te-123m) sealed sources for use in the Picker International Model STEP system. The Isotope Product Code HEGL-0022 gadolinium-153 (Gd-153) and technetium-99m (Tc-99m) were listed as sealed sources approved for use in the Picker International Model STEP system.

When your amended license is issued, we will authorize the Picker International Model STEP system as approved in the Sealed Source and Device Registry (NR-104-D-101-S attached).

If the Isotope Product Code HEGL-241 and HEGL-123m are to be utilized in the Picker International Model STEP system, demonstrate that these particular sealed source models have been registered with the NRC or an Agreement State.

2. In the letter dated July 11, 1996, the maximum amount of Gd-153 requested is 90 millicuries; however, the Sealed Source and Device Registry lists a maximum possession limit of 86 millicuries for the Gd-153 sealed source.

Amend the request to state the maximum amount as approved in the Sealed Source and Device Registry (NR-104-D-101-S) of Gd-153 that will be possessed in the Picker International Model STEP system at any one time.

3. The Sealed Source and Device Registry lists a maximum possession limit of 23 millicuries for the Tc-99m fabricated source; however, in your July 11, 1996, letter, the maximum amount of Tc-99m requested is 50 millicuries (up to 25 millicuries per tube).

   Amend the application to state the maximum amount, as approved in the Sealed Source and Device Registry (NR-104-D-101-S) of Tc-99m that will be possessed in the Picker International Model STEP system.

4. Provide radiation safety procedures for the safe operation and maintenance of the device to include source handling of the line sources.

5. Submit emergency procedures in the event the shutter fails to close and/or sealed source is bent or broken during loading (installation), etc.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application. Please reply in duplicate and refer to the license, docket, and control number specified below. If you have questions or require clarification on any of the information stated above, we encourage you to contact us at (817) 860-8132.

Sincerely,

Jacqueline D. Burks

Jacqueline D. Burks
Health Physicist
Nuclear Materials Licensing Branch

License: 35-09206-03
Docket: 030-08883
Control: 466140

Enclosure:

NR-104-D-101-S

DOCUMENT NAME: P:\DEFICIEN\HILLCRES.DEF

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RIV:NMLB	N						
JDBurks	JDBurks						
09/30/96							

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

August 9, 1996

Hillcrest Medical Center
Department of Nuclear Medicine
ATTN: David W. Anderson, Ph.D.
Radiation Safety Officer
1120 South Utica
Tulsa, Oklahoma 74104

SUBJECT: ACKNOWLEDGMENT OF REQUEST FOR LICENSING ACTION

REFERENCE: LETTER DATED JULY 11, 1996

We have completed the administrative review and initial processing of your application.

During the initial processing no omissions/deficiencies were identified. Please note that the technical review may identify additional omissions in the submitted information or technical issues that require additional information.

Amendment actions are normally processed within 30 days, unless the technical review identifies:

- Major technical deficiencies
- Decommissioning/decontamination activities are required before an application can be completed
- Confirmatory closeout surveys after decontamination/decommissioning activities are required before a license can be terminated or a facility removed from the license
- Policy issues are identified that require input and coordination with other NRC Regional offices, Agreement State offices, or NRC's Office of Nuclear Materials and Safeguards

A copy of your correspondence has been forwarded to our License Fee and Accounts Receivable Branch, Office of the Controller, who will contact you separately if the appropriate license fee has not been submitted for your request, or for billing if your request is subject to full cost recovery.

Any correspondence about this application should reference the Control number listed above.

Sincerely,

Original Signed By
Billie Gruszynski

Billie Gruszynski (Ms.)
Nuclear Materials Licensing Branch

License: 35-09206-03
Docket: 030-08883
Control: 466140

To receive a copy of this document, indicate in the box "C" - Copy without attachment/enclosure "E" - Copy with attachment/enclosure "N" - No Copy

OFFICE	RIV:AO: NMLB	N						
NAME	BGruszynski BG							
DATE	8/9 /96							

NRC FORM 577 (1-95)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSE FEE REQUIREMENTS

LICENSE FEE AND DEBT COLLECTION BRANCH
DIVISION OF ACCOUNTING AND FINANCE
OFFICE OF THE CONTROLLER
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

HILLCREST MEDICAL CENTER
ATTN: DAVID ANDERSON, PH.D.
RADIATION SAFETY OFFICER
1120 S. UTICA AVENUE
TULSA, OK 74104-4090

TYPE OF ACTION

- ☐ NEW LICENSE
- ☐ RENEWAL OF LICENSE
- ☒ AMENDMENT TO LICENSE

REQUESTED DATE: 7-11-96

LICENSE NUMBER: 35-09206-03

CONTROL NUMBER: 466140 ATTN: RITA MESSIER, LFARB, T9E10

I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of the enclosed Federal Register notice. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

FEE CATEGORY	APPLICATION	RENEWAL	AMENDMENT
7C	$	$	$ 440.00
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$

FEE(s) DUE	$ 440.00
PAYMENT RECEIVED	$ 430.00
AMOUNT DUE	$ 10.00

☐ Your request was received without the prescribed application fee.

☒ We received your Check No. 54569 in the amount of $ 430.00. Payment of the additional fee noted above is required.

☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

II. FEE NOT REQUIRED

☐ Enclosed is Check No. _____ which accompanied your request. The fee is not required because:

☐ We received your Check No. _____ in payment of the fee.

☐ The Licensing staff has informed us that your request is to be considered as a continuation of your request dated _____, Control No. _____.

☐ Your request was combined, prior to review, with your _____ request, Control No. _____.

III. CHECK RETURNED

☐ Enclosed is Check No. _____ which was returned to us by the bank for:

- ☐ INSUFFICIENT FUNDS
- ☐ ACCOUNT CLOSED
- ☐ OTHER

MAIL THE REPLACEMENT CHECK TO THE ADDRESS LISTED AT THE TOP OF THIS FORM AND REFERENCE THE ABOVE CONTROL NUMBER.

IV. LICENSE ISSUED WITHOUT THE REQUIRED FEE

☐ License No. _____, Amendment No. _____, issued on _____ was issued without the required fee being collected. The fee required is noted in Section I of this form.

☐ The scope of your licensed program was increased. Therefore, your request is subject to the application fee(s) noted in Section 1 of this form. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Because of the urgency of your request, the license was issued without remittance of the prescribed fee noted in Section 1 of this form.

SIGNATURE – LICENSE FEE ANALYST	LFDCB	LFDCB	Distribution: DC DAF RF	DATE
RITA MESSIER	REMessier 7/23/96	Rem	Pending Fee File OC/DAF/SF (LF-3 2.7) LFARB R/F (2) Region IV	7-23-96

BETWEEN:
LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 02120
STATUS CODE: 0
FEE CATEGORY: 7C
EXP. DATE: 20030430
FEE COMMENTS:
DECOM FIN ASSUR REQD: N

1996 JUL 19 PM 1:44

LICENSE FEE TRANSMITTAL

A. REGION IV

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: HILLCREST MEDICAL CENTER
RECEIVED DATE: 960718
DOCKET NO.: 3000883
CONTROL NO.: 46614O
LICENSE NO.: 35-09206-03
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: $430-
CHECK NO.: 054569

3. COMMENTS

SIGNED Laura Smiley
DATE 7/18/96

RECEIVED
SEP 10 1996
REGION IV

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED (✓))

1. FEE CATEGORY AND AMOUNT: 7C $440

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT ✓
RENEWAL
LICENSE

3. OTHER

SIGNED Rita Messina
DATE 9/3/96

Log Jul 2 IV
Remitter
Check No. 054569 / 062977
Amount $430+ $10
Fee Category 7C
Type of Fee Amd
Date Check Rec'd.
Date Completed 9/3/96
By: Kim

Hillcrest
MEDICAL CENTER
HealthCare Corporation
1120 S. Utica Ave.
Tulsa, OK 74104-4090
918/579-1000

July 11, 1996

Jacqueline Burks, Health Physicist
Nuclear Materials Licensing Section
U.S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Reference: NRC License # 35-09206-03 -- Hillcrest Medical Center, Tulsa, Oklahoma, amendment request to add NRC Certified Use NR-104-D-101-S (4-28-95).

Dear Ms. Burks:

The Hillcrest Medical Center of Tulsa, Oklahoma has purchased a Picker Prism 3000 scintillation camera. To fully implement its operation, we now need to use the STEP non-uniform attenuation correction system which is available with the unit.

We therefore request an amendment to our licenses to add the following sources and configurations for use in the STEP system with US NRC registration NR-104-D-101-S dated April 28, 1995.

Gd-153 sealed source - model HEGL-0022 from Isotope Products Laboratories, Burbank, CA (or equivalent product from a licensed Agreement State or NRC vendor) with a possession limit of 90 mCi.

Co-57 sealed source - model HEGL-0021 from Isotope Products Laboratories, Burbank, CA (or equivalent product from a licensed Agreement State or NRC vendor) with a possession limit of 60 mCi.

Am-241 sealed source - model HEGL-241 from Isotope Products Laboratories, Burbank, CA (or equivalent product from a licensed Agreement State or NRC vendor) with a possession limit of 90 mCi.

Te-123m sealed source - HEGL-123m from Isotope Products Laboratories, Burbank, CA (or equivalent product from a licensed Agreement State or NRC vendor) with a possession limit of 90 mCi.

For these sources we commit to the following:

1. Sources will only be used in the Prism 3000 STEP system.

2. Receipt and storage both prior to and following use of the sealed sources will be in accordance with safety procedures already in place for other sources, both sealed and unsealed for which we are presently authorized. Such procedures include but would not be limited to considerations for security, handling, retention of sources in shipping shields, maintenance of labeling as to source identity, caution labeling, etc. Use of the sources will be per the combined protocols as described in the package insert received from the source manufacturer and the operators guide for the STEP unit authored by Picker Ohio Imaging.

3. Sources will be inventoried quarterly and leak testing will be conducted at six month intervals.

4. Spent sources will either be returned to supplier as part of an exchange program or decayed in storage until levels on contact without the benefit of shielding is measured by a low level survey meter are indistinguishable from those of natural background. It is understood decay in storage may require a period of ten or more years. If disposal prior to full decay becomes necessary, the sources will be transferred to an authorized recipient for disposal purposes.

Authorization is also requested for 99mTc liquid 50 mCi (up to 25 mCi per tube) to be fabricated as a sealed source on site using a fixture (glass tubes with sealable ends) supplied by Picker Ohio Imaging as part of the STEP system package.

For these sources, we commit to:

1. Fabrication and use of the source will be per radiation safety procedures already in place for handling unsealed source of Tc-99m (i.e. gloves, syringe shields, lead lined L block, working over absorbent surfaces, etc.) and per the instruction detailed in the STEP system operation's guide supplied by Picker International.

2. Ring TLD badge will be used to measure dose to the hand.

3. Once filled, the line source will be observed for possible leakage before being loaded and locked into the detachable shield of the STEP system. This will be accomplished behind the L-block in the hot lab using the same radiation safety precautions (gloves, L block, etc.). The outer service of the STEP will be surveyed with a pancake probe survey meter to assure that there is no surface contamination on the exterior of the unit. Surface reading should be no greater than 0.04 mR/hr when the STEP is loaded.

4. The unit will then be mounted on the camera as per Picker instructions. The shutter will be checked for proper operation before the unit is used for patient procedures.

5. When the STEP is not in use, the unit will be stored in our decay in storage cabinet.

6. Spent line sources will be stored in our decay in storage cabinet and may be reloaded and reused or disposed to waste after 10 half lives decay and contact survey to verify that radiation level is indistinguishable from natural background.

7. Because of the short half-life of 99 mTc, we do not plan to do semiannual leakage testing of the 99 Mt. line sources.

Enclosed please find our check of $430.00 for the amendment fee.

If you have questions regarding this request, please contact Mr. Tim Payne ate (918) 579-4949 or Dr. David Anderson, at (918) 579-8200.

Sincerely,

David W. Anderson

David Anderson, Ph.D.
Radiation Safety Officer

cc: Terry Eichor, Administrative Director
Clinical Support Services

Vernon Joe Ficken, Ph.D.
Physicist

DWA/jw

166140